

Date: Thursday, 3/30/2006 8:33:51 AM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : AFT TUBE ASSEMBLY
 Job Number : 26433
 Estimate Number : 10699
 P.O. Number : N/A Part Number : D3391025
 This Issue : 3/30/2006 S.O. No. : N/A Drawing Number : D3391 REV D
 Prsht Rev. : NC Project Number : N/A
 First Issue : N/A Type : LANDING GEAR Drawing Revision : D
 Previous Run : 24443 Material : N/A
 Due Date : 4/20/2006 Qty: 1 Um: Each
 Written By : See COMMENT BELOW
 Checked & Approved By : 06.03.30
 Comment : Est Rev B 06-02-07 ECN773 dwg rev. D EC
 Est Rev: C 06-03-28 Update Manufacturing Instructions JLM

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6014090	ALUMINUM EXTRUSION
-----	----------	--------------------



Comment: Qty.: 1.0000 f(s)/Unit Total: 1.0000 f(s)

ALUMINUM EXTRUSION

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

1	D6014-090	Extrusion	24315 (D6014-104) M8 06/04/01
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Identify as D3391-3

2.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

Turn as per Folio FA599 Rev: 4 & Dwg D3391 Rev: D M8 06/04/01

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

M8 06/04/02

4.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------



Comment: HAAS

1-Machine as per Folio FA 599 Rev: 4A & Dwg D3391 Rev: D

2-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

3-Deburr

B.G. 06.04.05

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 3/30/2006 8:33:51 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26433

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description:

5.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

BE 06-04-25

6.0

QC8

SECOND CHECK



Comment: SECOND CHECK

7.0

BENDING

BENDING MACHINE



Comment: NC Bender

Form as per Dwg D3391 Using Bend Prog 3391025

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

BE 06-04-26 ①

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open Aft cap pilot hole to .208" as per Dwg D3391

BE 06-04-26 ①

2-Drill Tube as per D3391 using DT8809 (HOLES MARKED "A" ONLY)

BE 06-04-26 ①

3-Drill and C sink wearshoe holes as per Dwg D3391 Using DT8878(Mid Tube) & DT8217 Wearplate Jig

BE 06-04-26 ①

4-C sink holes for float bag (4 holes per side) as per Dwg D3391

BE 06-04-26 ①

5-Deburr

BE 06-04-26 ①

Tools: rill

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

BE 06-04-27 ①

11.0

HAND FINISHING 1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per OSI 005 4.1

BE 06-04-27 ①

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26433

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

DL 02/04/27

①

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

14.0

AESS10KB366

INSERT



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Insert

Pick:

Qty Part Number Description Batch

14 AESS10KB366 Insert

M17905 -

15.0

NAS1330C3KB166



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

8 NAS1330C3KB166 Insert

M100732 -

16.0

AESS10KB266

INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

2 AESS10KB266 Insert

M17905 -

or NAS1330C3KB266 ✓

17.0

AESS10KB316

INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

2 AESS10KB316 Insert

M17905

or NAS1330C3KB316

DL

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 3/30/2006 8:33:52 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26433

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

D2646

Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Aft Cap

Pick:

Qty	Part Number	Description	Batch
1	D2646	Aft Cap	B23925B -

19.0

AN3C4A

BOLT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Pick:

Qty	Part Number	Description	Batch
2	AN3C4A	Bolt	M19522 -

20.0

AN960C10L

washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Inventory

Pick:

Qty	Part Number	Description	Batch
2	AN960C10L	Washer	M18822 -

21.0

NAS1515H3L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Pick:

Qty	Part Number	Description	Batch
2	NAS1515H3L	Washer	M19185

DL 06/04/27 ①

22.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Install inserts as per Dwg D3391

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 M100480

Sikaflex expiry date: 11/09

DL 06/04/27 ①

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: *RD* Date: 06/05/02
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26433

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

23.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

W/ 06 05 01 (1)

24.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

N/A

25.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

DP 06/05/02 (1)

Job Completion



U 06/05/02

Dart Aerospace Ltd

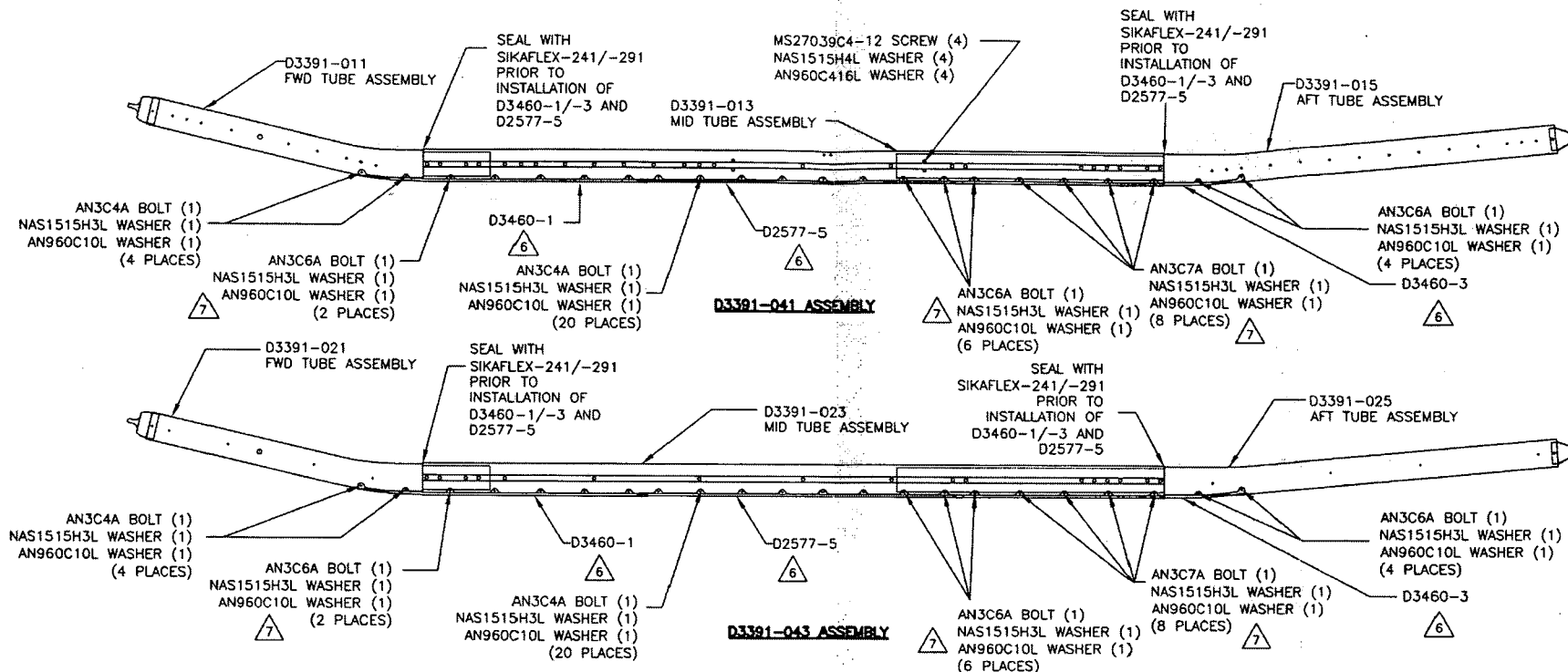
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3460-1	WEARSHOE
1	1	D3460-3	WEARSHOE

GENERAL NOTES

- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART OSI 018 UNLESS OTHERWISE NOTED
- FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- USE DART DRILL TEMPLATE D78217 TO LOCATE AND DRILL 'E' SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS. C/SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES
- DO NOT TORQUE, HAND TIGHTEN ONLY

RELEASED

06-01-27

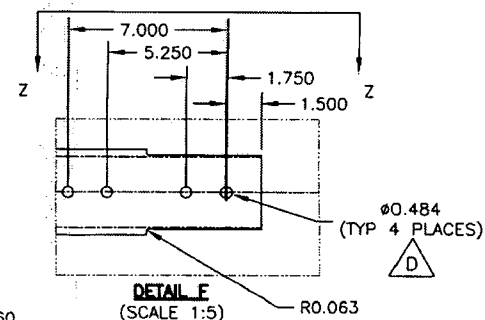
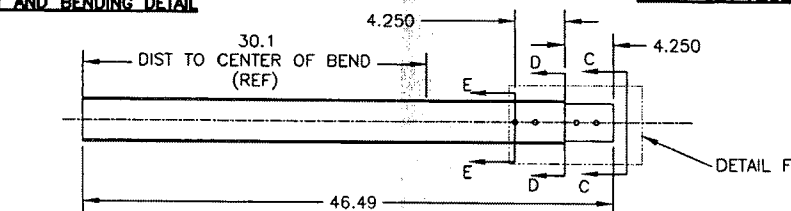
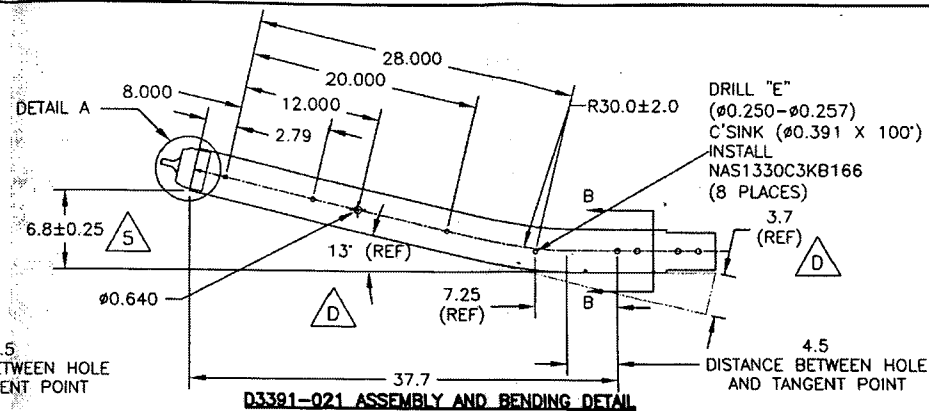
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	#	APPROVED #
DATE	06.01.23	DRAWING NO. D3391
		TITLE 412 FLOAT SKIDTUBE
		REV. D SHEET 1 OF 5
		SCALE NTS

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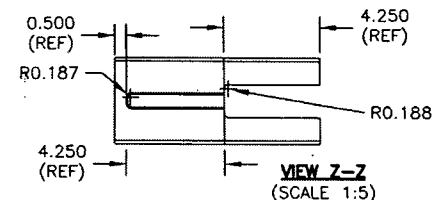
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NO. 26433
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ENGINEERING



RELEASE

06.01.2




QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
4	4	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
4	4	AN960C10L	WASHER
24	14	NAS1330C3KB166	INSERT

Technical drawing of a shaft cross-section. The drawing shows a circular cross-section with a central hole. The outer diameter is labeled as $\phi 3.750$ (REF) with a tolerance of ± 0.010 . The inner diameter is labeled as $\phi 3.460$ (REF) with a tolerance of ± 0.000 . The distance from the top of the outer diameter to the top of the inner diameter is labeled as 3.590. The distance from the bottom of the inner diameter to the bottom of the outer diameter is labeled as 0.687. A feature control symbol (a triangle with the letter 'D') is shown on the right side of the shaft, indicating a circular runout tolerance. A surface texture symbol (a square with 'R0.031') is shown on the top surface of the shaft.

SECTION D-D
(SCALE 1:5)

SECTION C-C
(SCALE 1:5)

SECTION B-B
(SCALE 1:5)

 DRILL "E"
 (Ø0.250-Ø0.257)
 C'SINK (Ø0.391 X 100')
 INSTALL
 NAS1330C3KB166
 (6 PLACES)

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DESIGN	
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DRAWN BY P	CHECKED BY P
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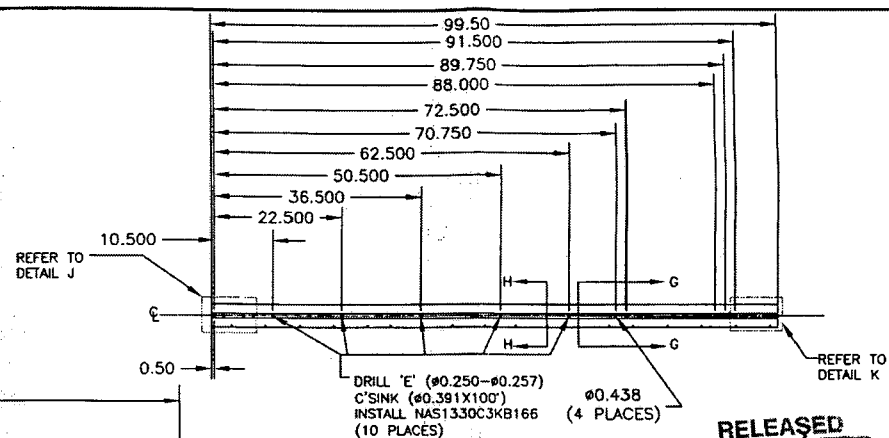
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REV. D

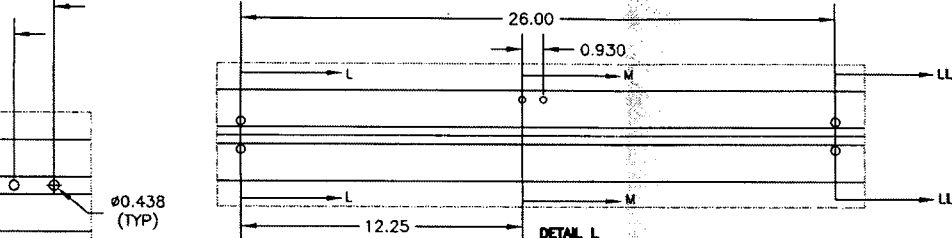
DATE
06 01 23

TITLE	412 FLOAT SKIDTUBE
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SCALE
1:10

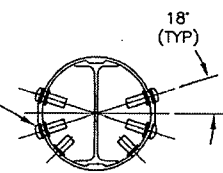


RELEASED
06.01.27 ~~11~~



(SCALE 1:5)

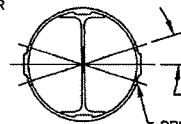
DRILL 'O' (#0.332-#0.338)
INSTALL NAS1329C4KB140 INSERT
MS27039C4-08 SCREW
NAS1515H4L WASHER
AN960C416L WASHER
(TYP 4 PLACES)



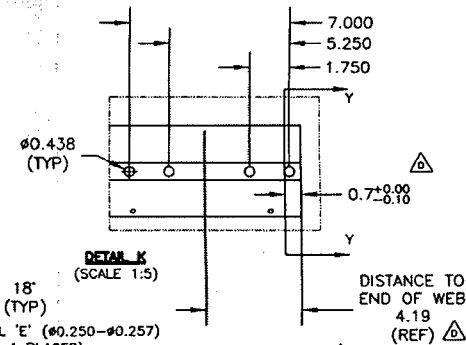
DETAIL 1
(SCALE 1:5)


1:5) DRILL 'E' (#0.250-#0.257)
C'SINK (#0.391X100")
INSTALL NAS1330C3KB116 INSERT
MS27039C1-09 SCREW
NAS1515H3L WASHER
AN960C10L WASHER
(TYPE 4 PLACES)

L 33
(TYP)



DRILL 'E' (#0.250-#0.257)
(TYP 4 PLACES)



DISTANCE TO
END OF WEB
— 4.19
(REF) 

D3391-013/-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 013	QTY - 023	PART NUMBER	DESCRIPTION
X		D3391-013	MID TUBE ASSEMBLY
	X	D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330C3KB116	INSERT
24	10	NAS1330C3KB166	INSERT
4		NAS1329C4KB140	INSERT
4		NAS1515H3L	WASHER
4		AN860C10L	WASHER
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
4		MS27039C1-09	SCREW
4		MS27039C4-08	SCREW

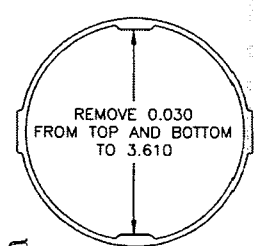
D3391-013/-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION

SECTION 1
(SCALE)
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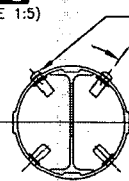
WORK ORDER
26433
NO 015

SECTION 1-1
(SCALE 1:4)

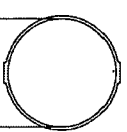


SECTION X-X
(SCALE 1:2)

SECTION M-M
(SCALE 1:4)



SECTION 11-11
(SCALE 1:4)

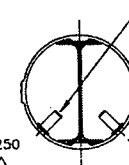


SECTION Y—
(SCALE 1:4)

SECTION G-G
(SCALE 1:4)



SECTION H-H
(SCALE 1:4)



NAS1330C3KB116
INSERT
(TYP 20 PLACES)

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06.01.23

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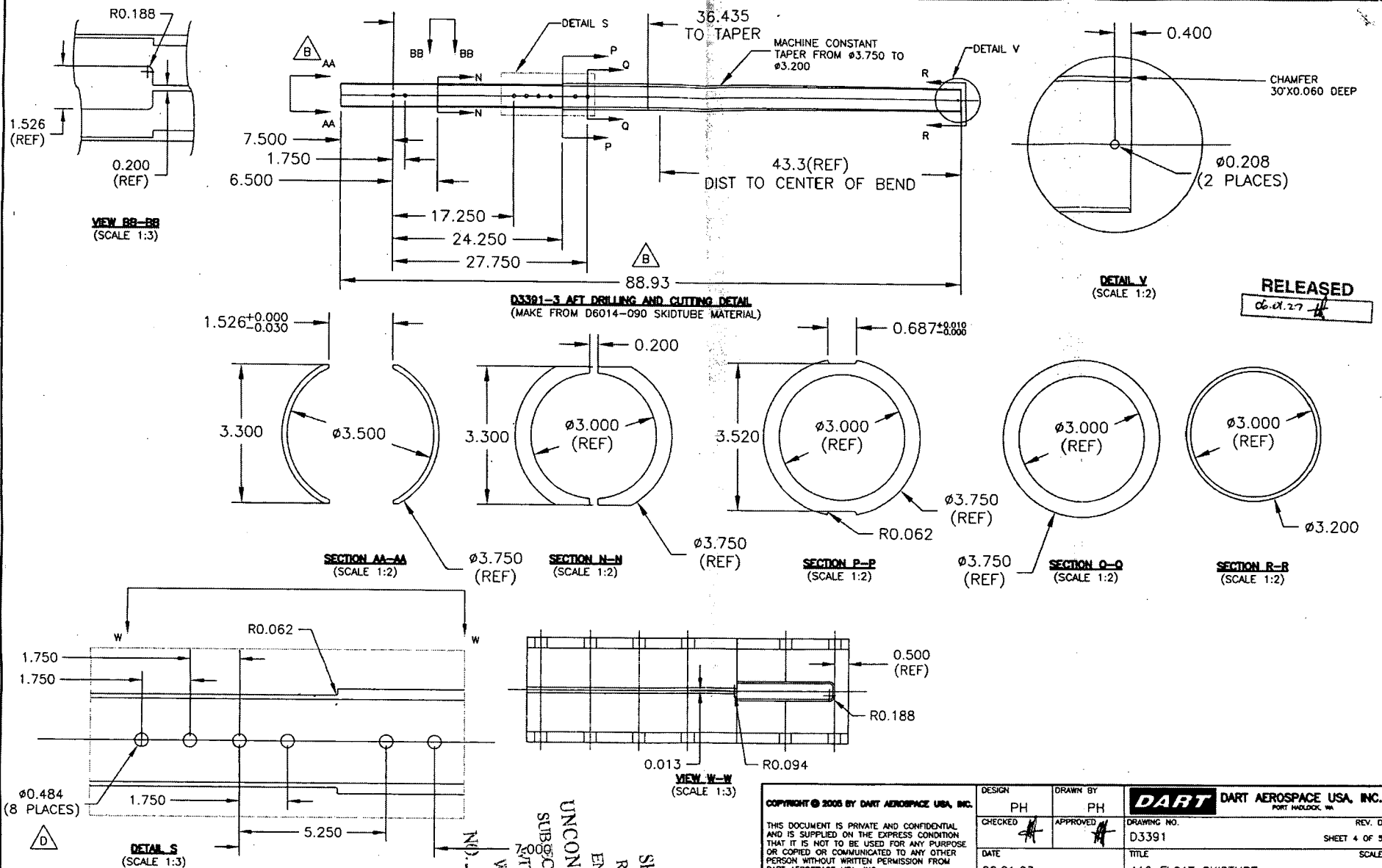
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DRAWING NO	D3391
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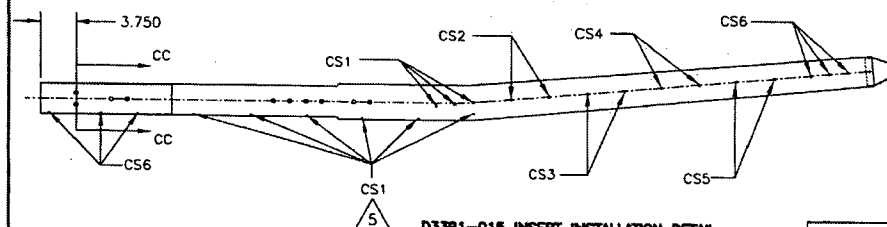
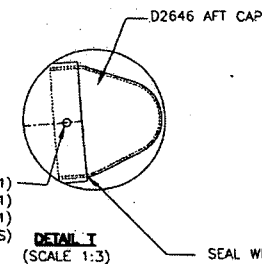
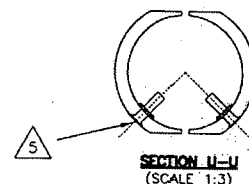
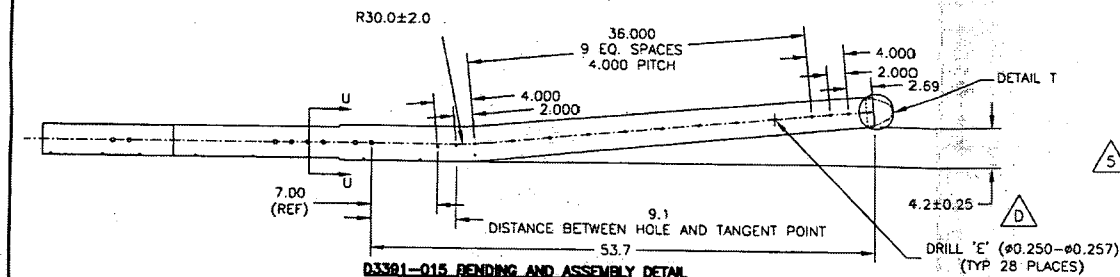
412 FLOAT SKIDTUBE

REV. D
SHEET 3 OF 5

1:20



RELEASED
06.01.27

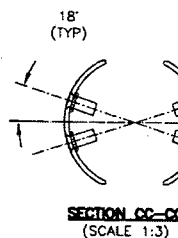
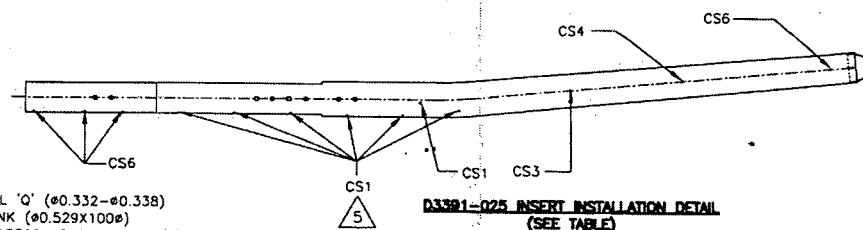
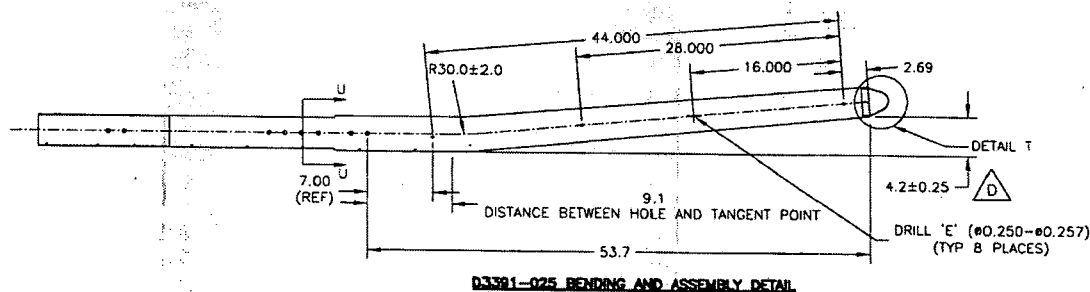


C/SINK AND INSTALL AESS10KBXXX AND/OR
NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS
FOLLOWS

HOLES MARKED	QTY D3391-015	QTY D3391-025	C/SINK	P/N
CS1	18	14	Ø0.425	AESS10KB366
CS2	4		Ø0.391	AESS10KB366
CS3	4	2	Ø0.391	NAS1330C3KB316
CS4	4	2	Ø0.391	NAS1330C3KB266
CS5	4		Ø0.391	NAS1330C3KB216
CS6	12	8	Ø0.391	NAS1330C3KB166

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
18	14	AESS10KB366	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4		NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER



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DESIGN PH	DRAWN BY PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, OH
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3391
DATE 06.01.23	TITLE 412 FLOAT SKIDTUBE	REV. D SHEET 5 OF 5

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DART AEROSPACE LTD		Work Order:	26433
Description: 421 float skid tube		Part Number:	3391-3
Inspection Dwg:	Rev:	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

[illegible]

Measured by:	MB	Audited by:	Er	Prototype Approval:	
Date:	06/04/01	Date:	06/04/07	Date:	

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/RF	

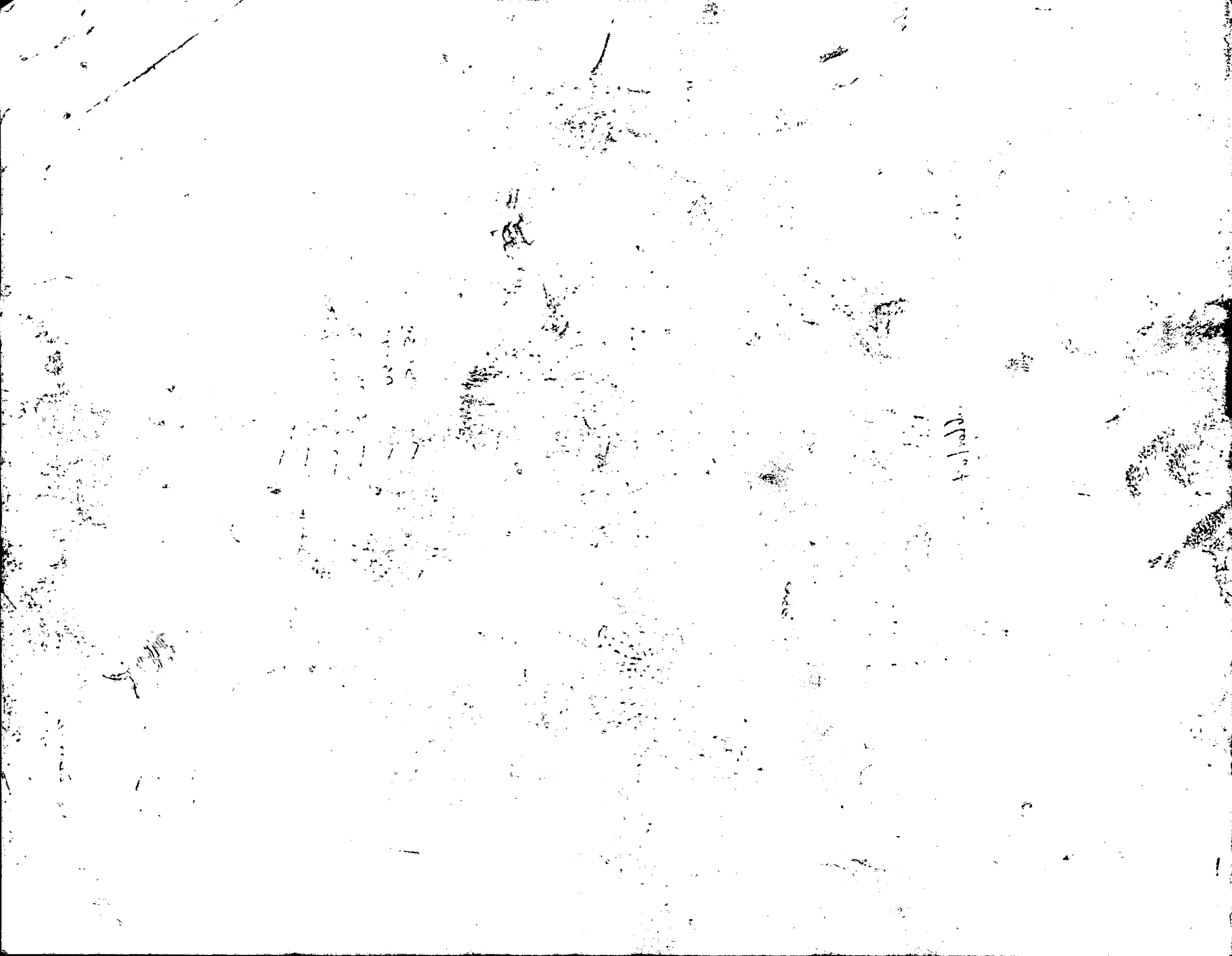
FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

[illegible]

Measured by:	BG	Audited by:	ES	Prototype Approval:	
Date:	06.04.05	Date:	06/04/07	Date:	

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/RF	



11/1/77

10/1/77